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User Guide
Remote PIV to VDI Using a PIV Card

Energy IT Services (IM-64)
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Table of Contents

1   Overview

As mandated by the Homeland Security Presidential Directive 12 (HSPD-12), Office of Management and Budget (OMB) M 11-11, and Department of Energy (DOE) O 206.2, Office of the Chief Information Office (OCIO) Energy IT Services (EITS) has deployed hardware, software, and configuration changes that enable EITS customers to log on to their computers with their HSPD-12 credentials.

The implementation of virtual desktops also falls under the HSPD-12 directive. Personal identity verification (PIV) authentication is integrated in the virtual desktop infrastructure (VDI) design and implementation. VDI is accessible from DOE internal trusted EITS zero-clients, laptops, and conventional desktops. This equipment provided by DOE is also known as government-furnished equipment (GFE). VDI can also be securely accessed from external clients over the Internet, however, which is one of the great benefits of VDI technology.

As a remote VDI user, you must also authenticate your identity with your PIV card per the HSPD-12 directive. In certain cases where the HSPD-12 credential cannot be used, an RSA token is the alternative form of two-factor authentication for external VDI users.

2   Scope

The tables below list the Internet browsers and operating systems that were tested with version and ability to function with remote PIV with VDI.

2.1   Web Browsers

Browser	Version	Function
Microsoft Internet Explorer	9.0.8112.16421	Yes
Microsoft Internet Explorer	11.0.9600.17358	Yes
Google Chrome	38.0.2125.111 m and above	Yes
Safari	6.2.3 and above	Yes
Mozilla Firefox	31.1.1	Not supported. Reconfiguration is required to support PIV and is not recommended.

2.2   Operating Systems

| Operating System	Version	Function
Windows	7.0 and above	Yes
Personal Mac	10.10.2	Yes
GFE Mac	10.8.5/0.9.5	Yes

3   Types of Smart Card Readers and Installation

There are three types of smart card readers used in the DOE environment. They are listed and displayed below. To learn more about card readers, go to the following Powerpedia page: HTTPS://POWERPEDIA.ENERGY.GOV/WIKI/SMART_CARD_READER.

| 1. Internal Card Reader	2. Portable Card Reader	3. Standard Card Reader

4   Install the External Reader on a PC

To install the external card reader, connect the card reader to your workstation. The card reader self-installs. To view the installed card reader's status, go to the lower left of the Windows screen. Select Start➔ Devices and Printers.
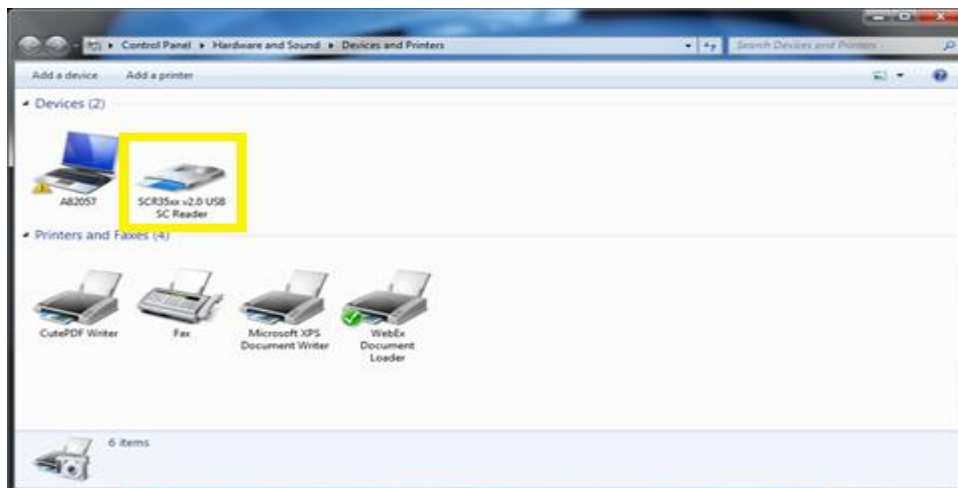
5   Access from a GFE Laptop

1. Once the card reader has been installed, insert your PIV card into the reader.
2. Open Internet Explorer and type in HTTPS://MYDESKTOP-TEST.DOE.GOV and press [Enter].
3. Select the link for the PIV card. The PIV card must be inserted prior to selecting the link.
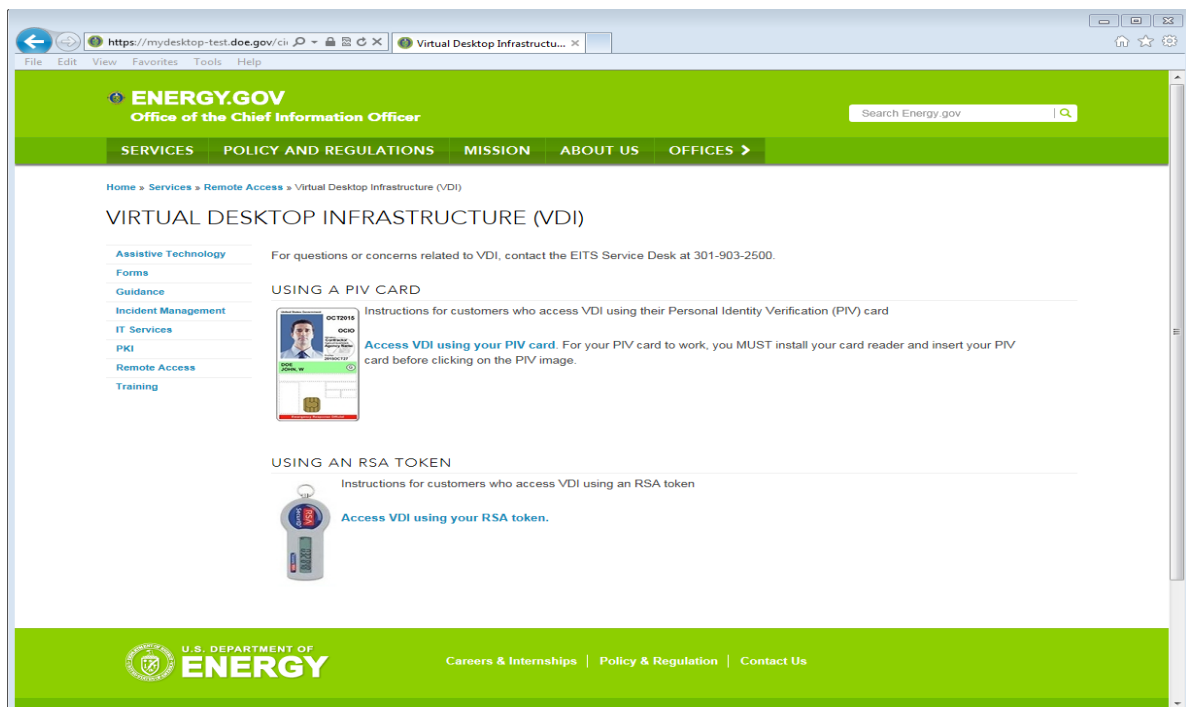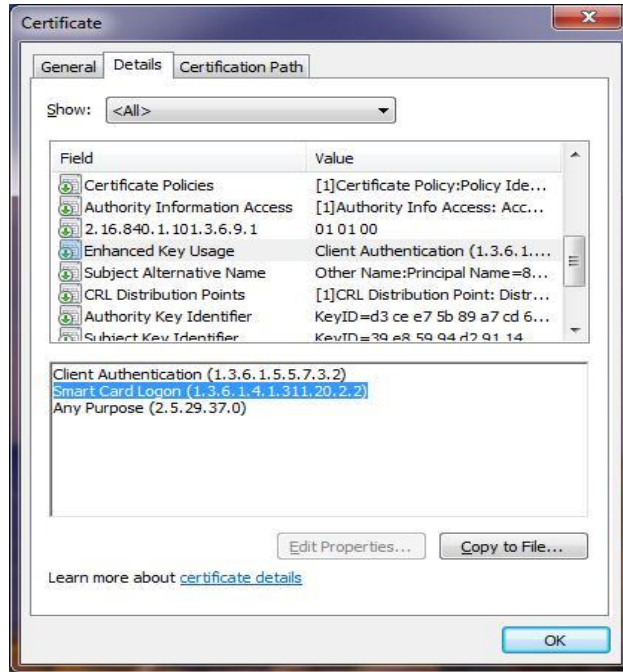
4. A certificate box is displayed.
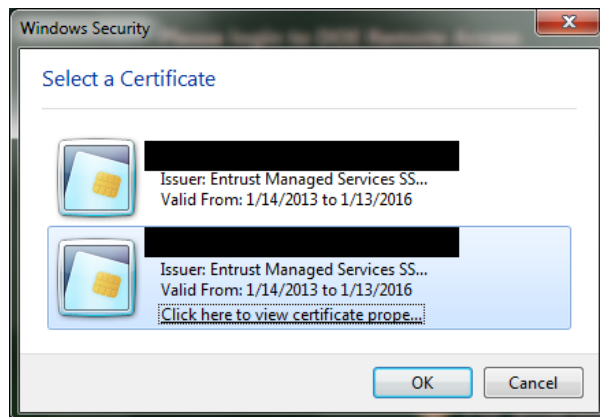
5. To determine the correct certificate is being used, select the link, Click here to view certificate properties. Select the Detail tab.

a. Select Enhanced Key Usage to display the Smart Card Logon as shown below.

b. After verifying the correct certificate, select [OK].

   Note: The desktop will not ask for your PIN because it was cached after logging onto your GFE laptop.

6. The desktop auto-launches. Select [OK] on the DOE Security Banner screen.

7. Type your PIN at the desktop and press [Enter].

Note: *If you see the username and password fields, select the* Other Credentials *button. Select the PIV car, type your PIN. Press [Enter].*

You are now logged into the VDI desktop.

6 Access from a Home Personal Computer

1. Download and install the latest receiver from
    HTTP://WWW.CITRIX.COM/GO/RECEIVER.HTML.
2. Insert a card reader if necessary. The card reader installs. To view the installed card reader's status, go to the lower left of the Windows screen. Select Start➔ Devices and Printers.
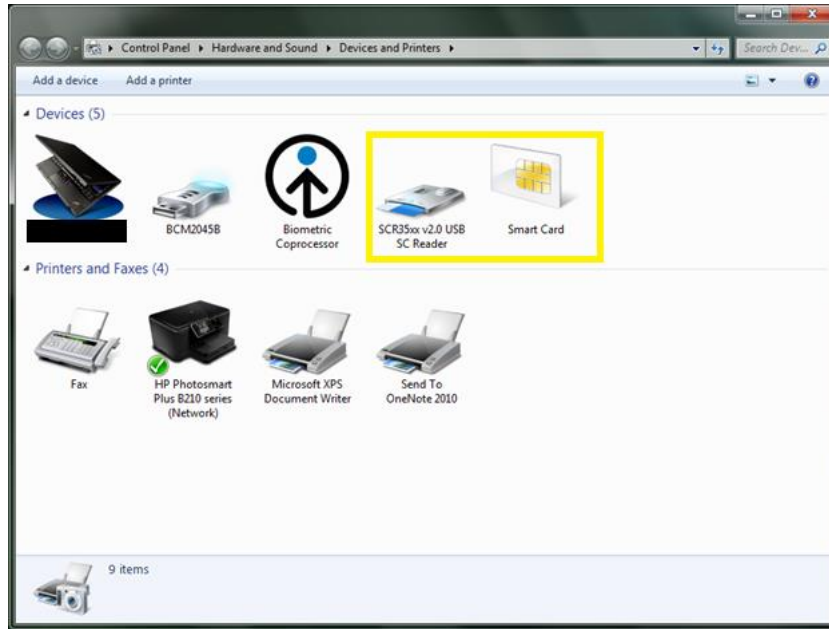
3. Once the card reader has been installed, insert your PIV card into the reader.
4. Open Internet Explorer and type in HTTPS://MYDESKTOP-TEST.DOE.GOV and press [Enter].
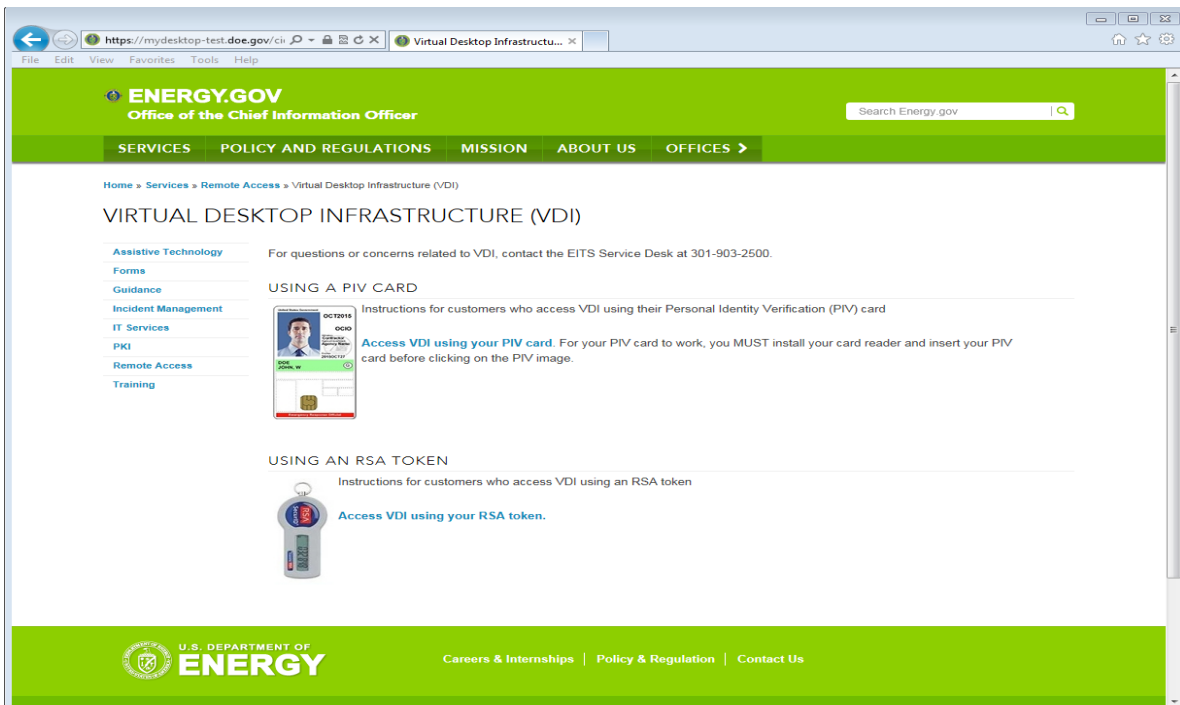
5. Select the link Access VDI using your PIV card. The PIV card must be inserted prior to selecting the link.
6. A certificate box is displayed.
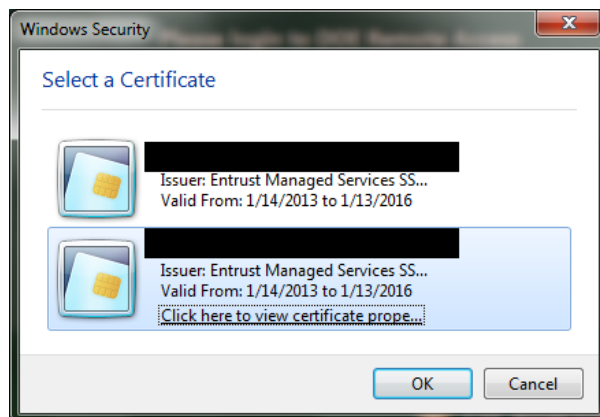
7. To determine the correct certificate is being used, select the link, Click here to view certificate properties. Select the Detail tab.

a. Select Enhanced Key Usage to display the Smart Card Logon as shown below.
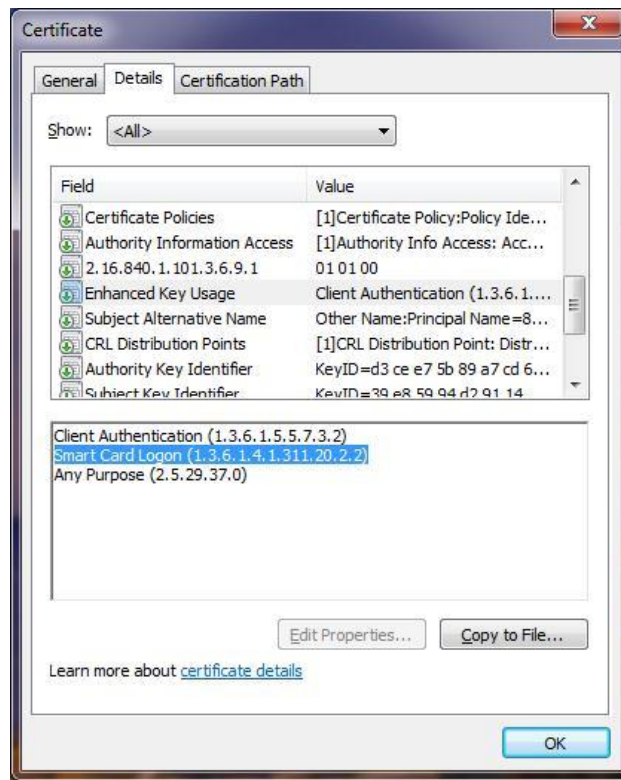
b. After verifying the correct certificate, and select [OK].
8. The PIN prompt box is displayed.
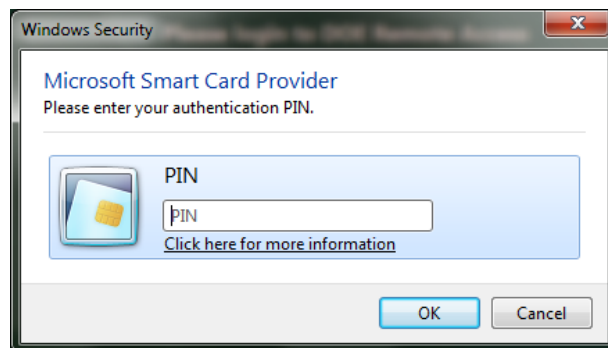
9. Type your PIN and select [OK]. If you do not see the PIN prompt box, check to make sure it did not pop up behind another window.
10. The desktop auto-launches. Select [OK] on the DOE Security Banner screen.
11. Type your PIN at the desktop and press [Enter].

Note: *If you see the username and password fields, select the* Other Credentials *button. Select the PIV card and type your PIN.*

12. You are now logged onto the VDI desktop.
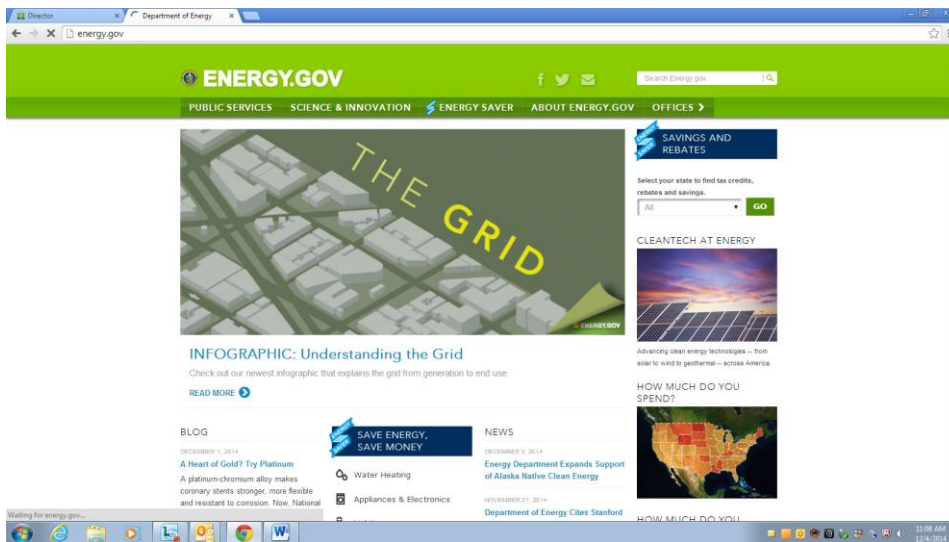
7   Access from a Home Personal Mac

If you are a Mac user and want to access VDI using your PIV card, you must have the operating system, X Yosemite 10.10.2 or higher and have Centrify Express for Smartcard installed.

1. Download and install the latest Mac receiver from the following site: HTTP://WWW.CITRIX.COM/GO/RECEIVER.HTML.
2. Go to HTTP://WWW.CENTRIFY.COM/EXPRESS/SMART-CARD-FORM. Complete the form and accept the End User License Agreement (EULA). Select the Download Now button to see Centrify Express for Smartcard.
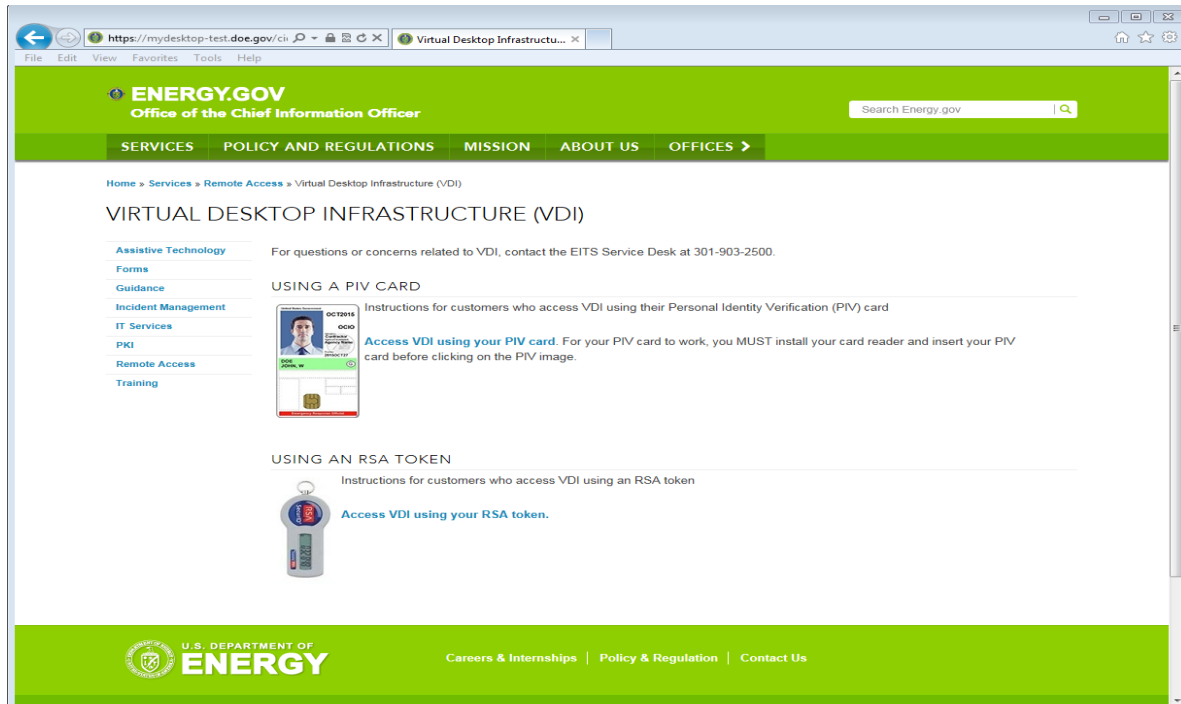
3. Select Download for Mac OS 10.7, 10.8, 10.9, 10.10.
4. Install Centrify Express for Smartcard.
5. To verify that Centrify Express for Smartcard is installed, select the Launchpad. Find the Smart Card Assistant.
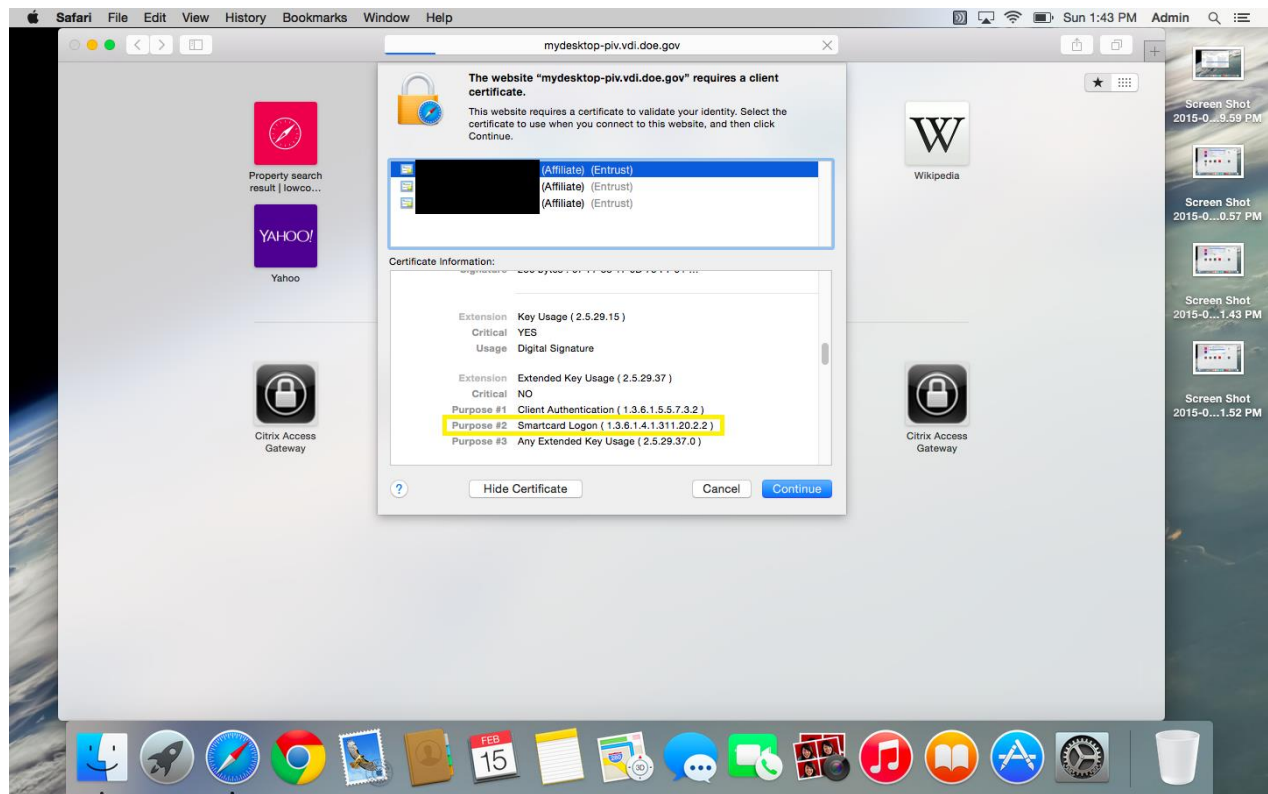

6. Open Safari and go to HTTPS://MYDESKTOP-TEST.DOE.GOV.
7. Insert the card reader.

8. Insert your PIV card.
9. Select Access VDI using your PIV card.

10. At the certificate, prompt, select a certificate and scroll down to Purpose #2 Smartcard Logon.

11. When the correct certificate is selected, select Continue.
    a. Centrify Express for Smartcard stores this option in the keychain, and you are not prompted to select the certificate again.
    b. If you accidentally select the wrong certificate, see appendix A for the steps to remove the certificate from the Centrify Express for Smartcard keychain.
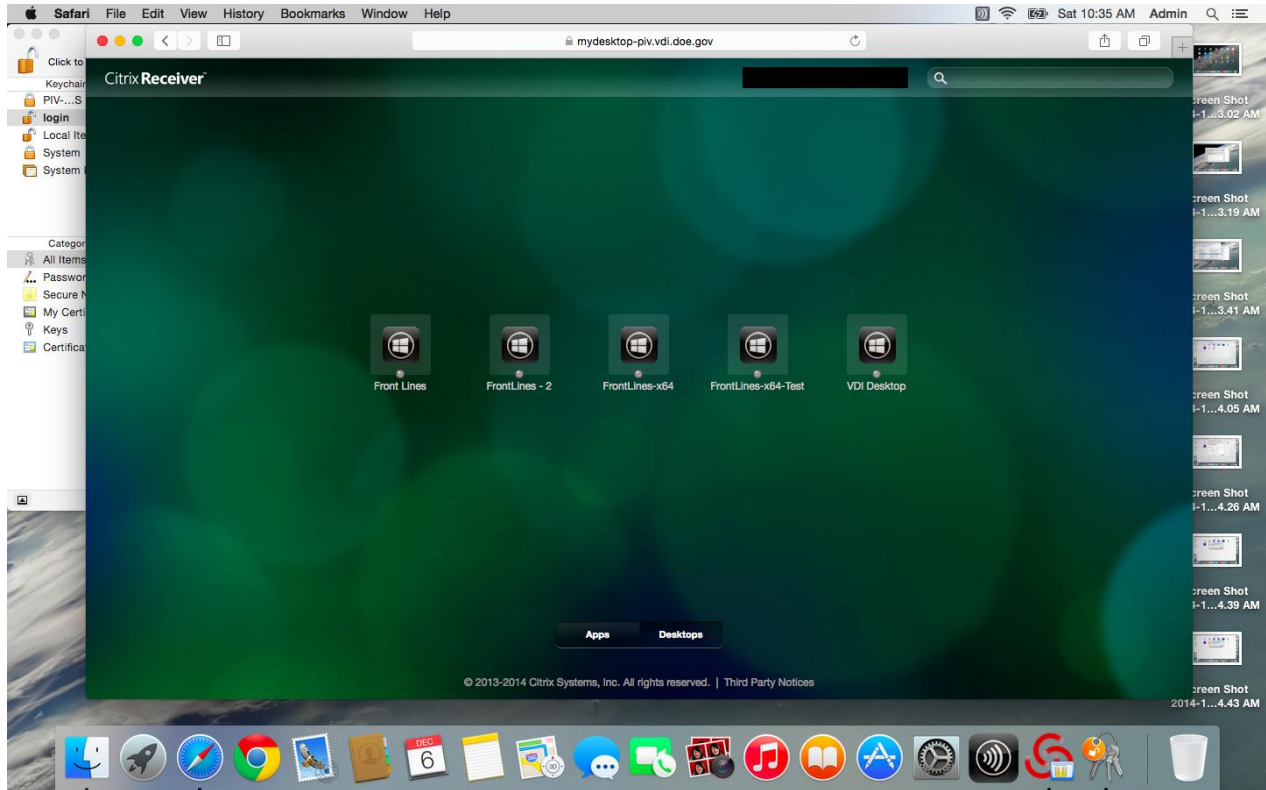12. At the next prompt, type your PIV card PIN, which is your keychain password. Press [OK].
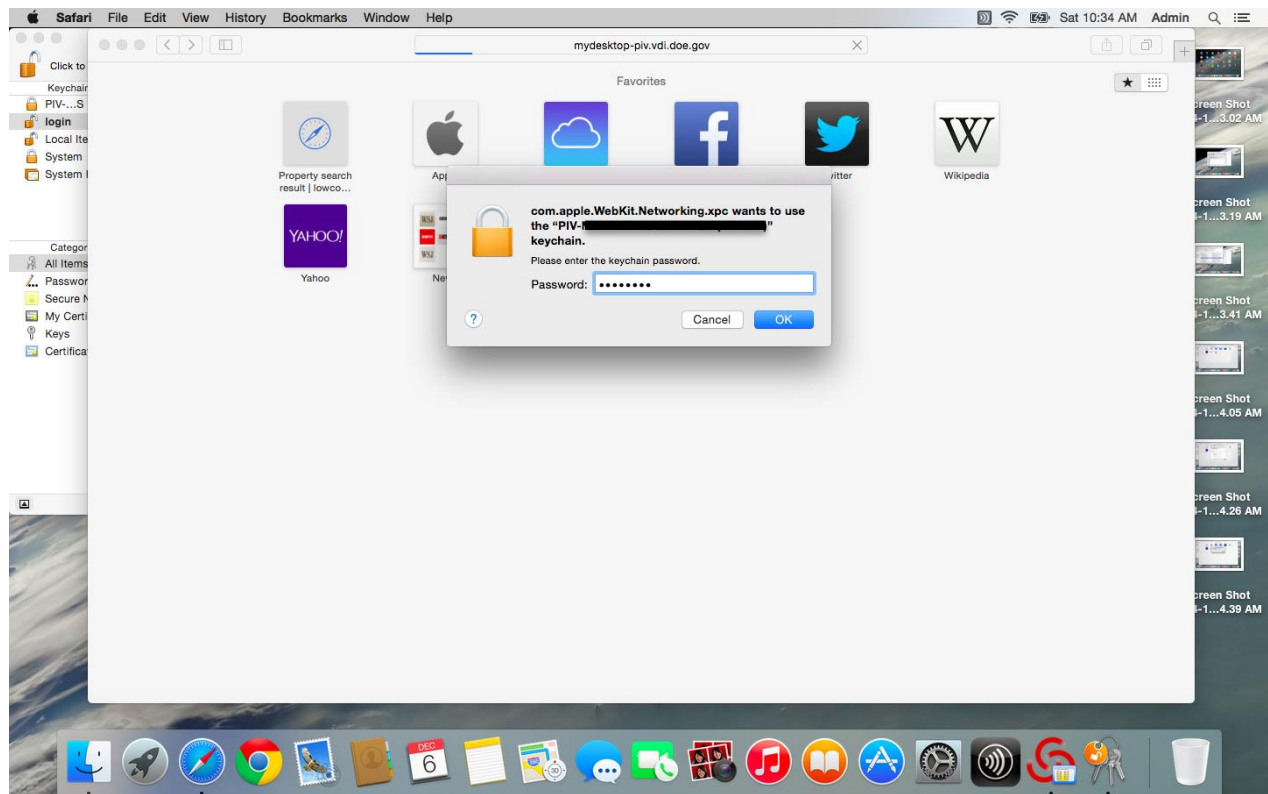
13. At the prompt to Trust the Citrix Receiver Plug-in, select Trust.
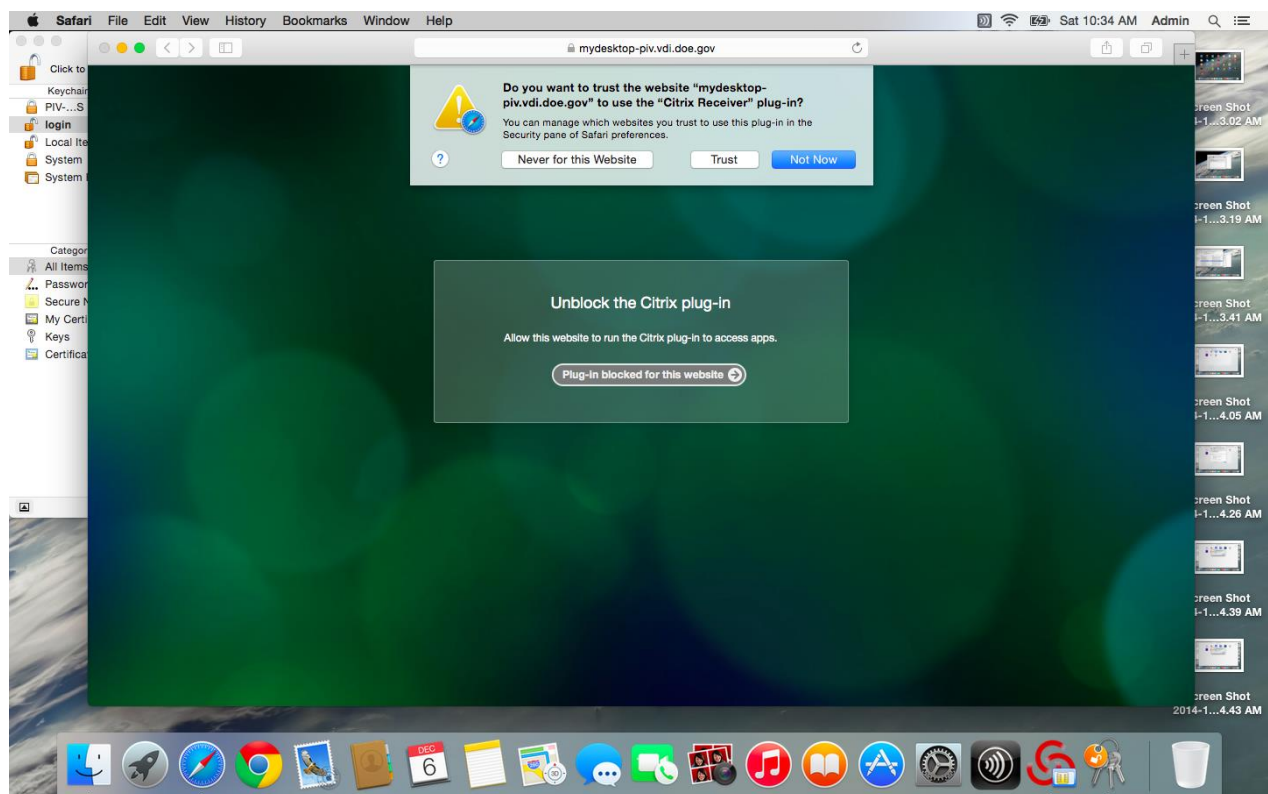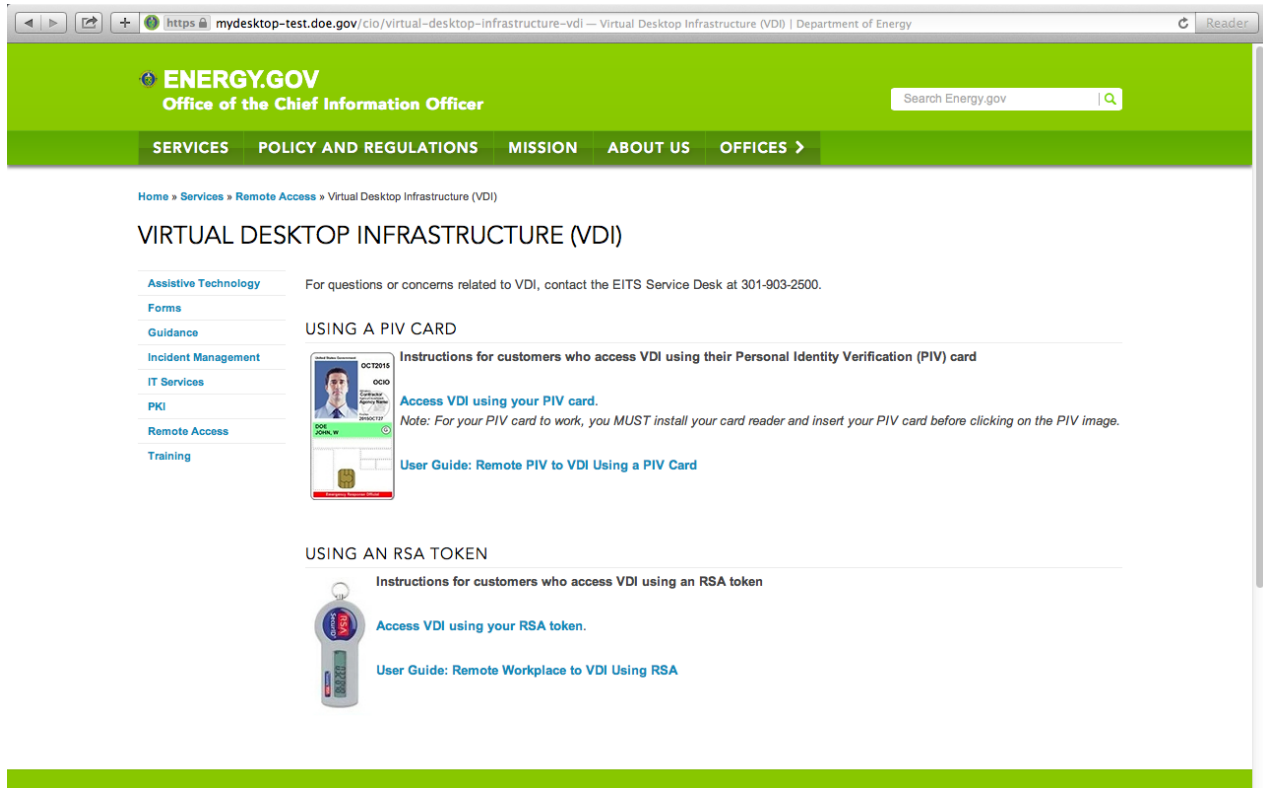
14. The Storefront displays.
    a. If you have a single desktop, it auto-launches.
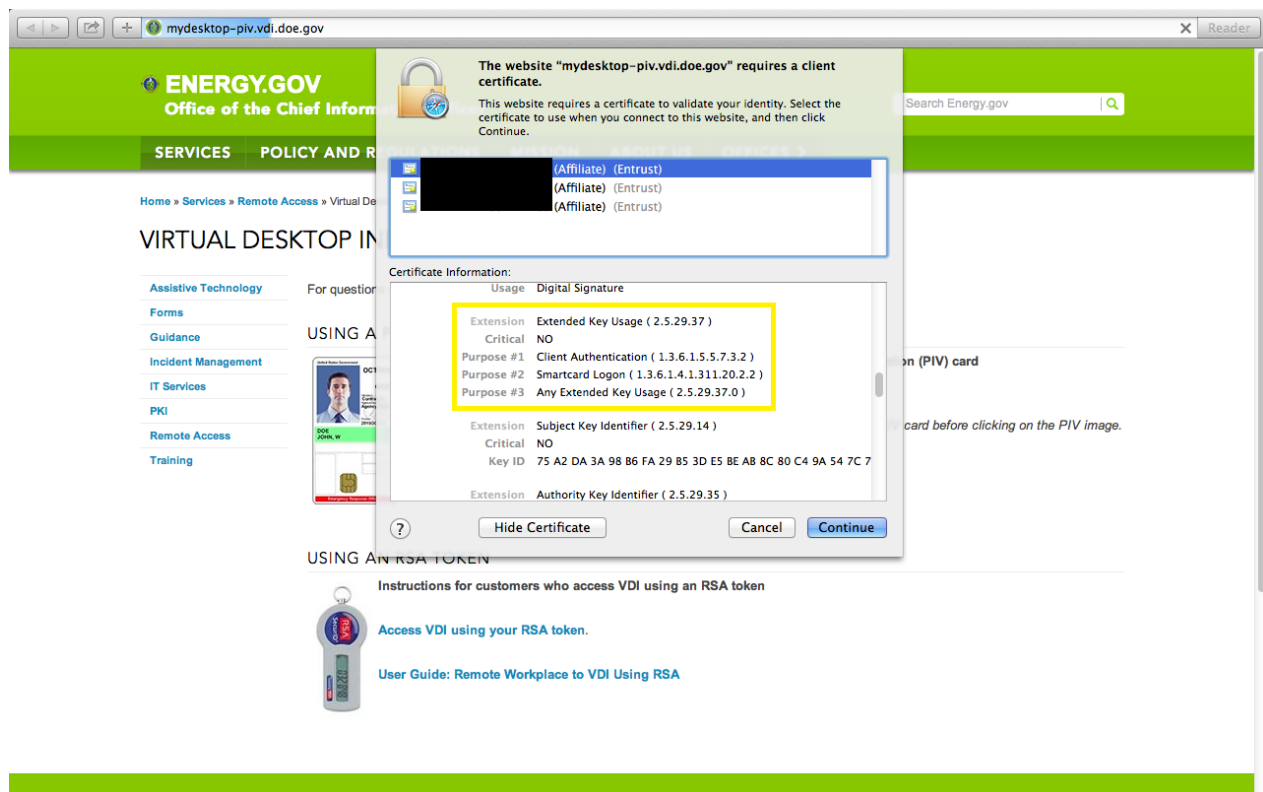   b. If you have more than one desktop, select the preferred desktop to launch.

15. When the desktop displays, the DOE Security Banner screen appears. Select [OK] to continue.
16. The desktop displays the message: Reading smart card...
17. At the prompt, type your PIN and press [Enter].
18. You are now logged on to the desktop.

## 8   Access from a Government Furnished Equipment (GFE) Mac

1. Insert card reader and PIV card.
2. Logon to your Mac using your PIV credential.
3. Open Safari or Chrome.
4. Go to https://mydesktop-test.doe.gov.

5. Click on the link to [Access VDI using your PIV card]
6. You will be prompted to select a certificate.
   a. Click on a certificate, click the button for Show Certificate and scroll down to look for Purpose #2 Smartcard Logon.
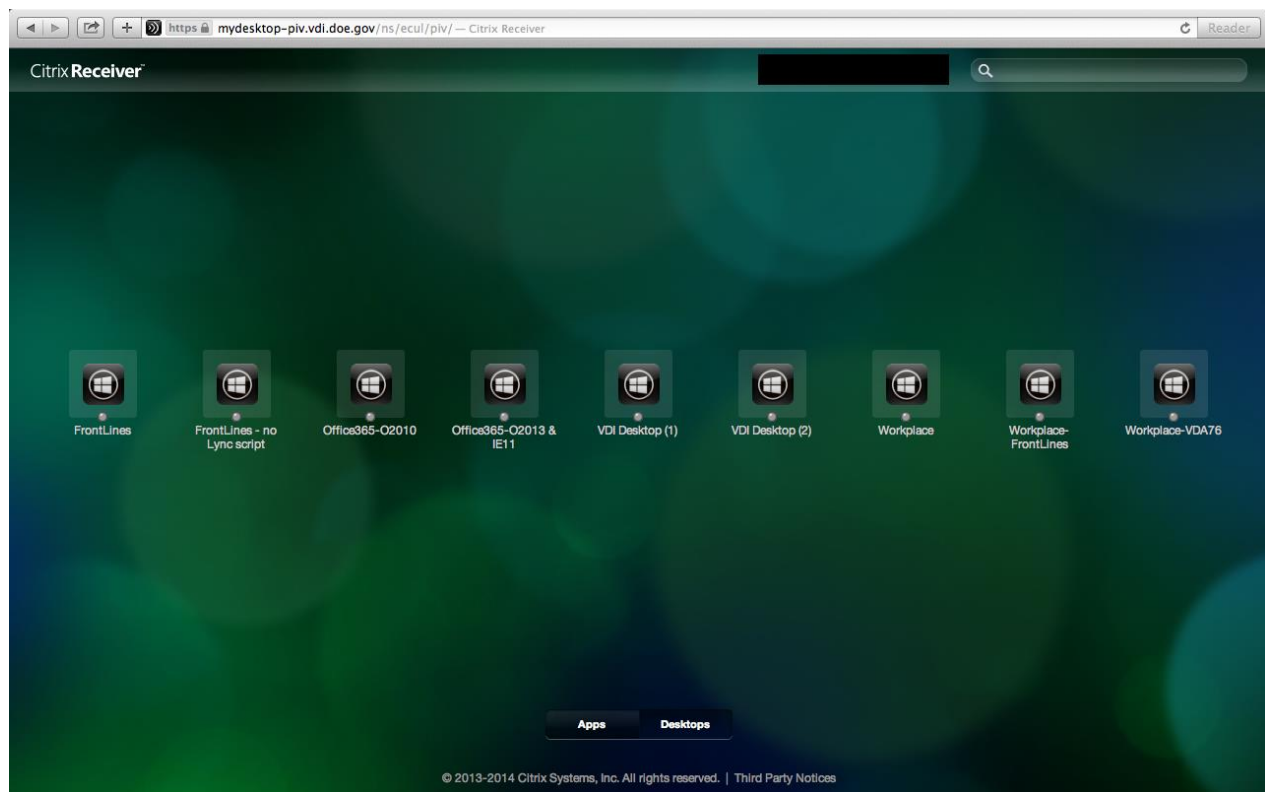
7. Once the correct certificate is chosen, click [OK/Continue]
8. You will not be required to enter your PIN as it was cached during logon to your Mac.
9. Click [Trust] to unblock the Citrix Receiver Plug-in.
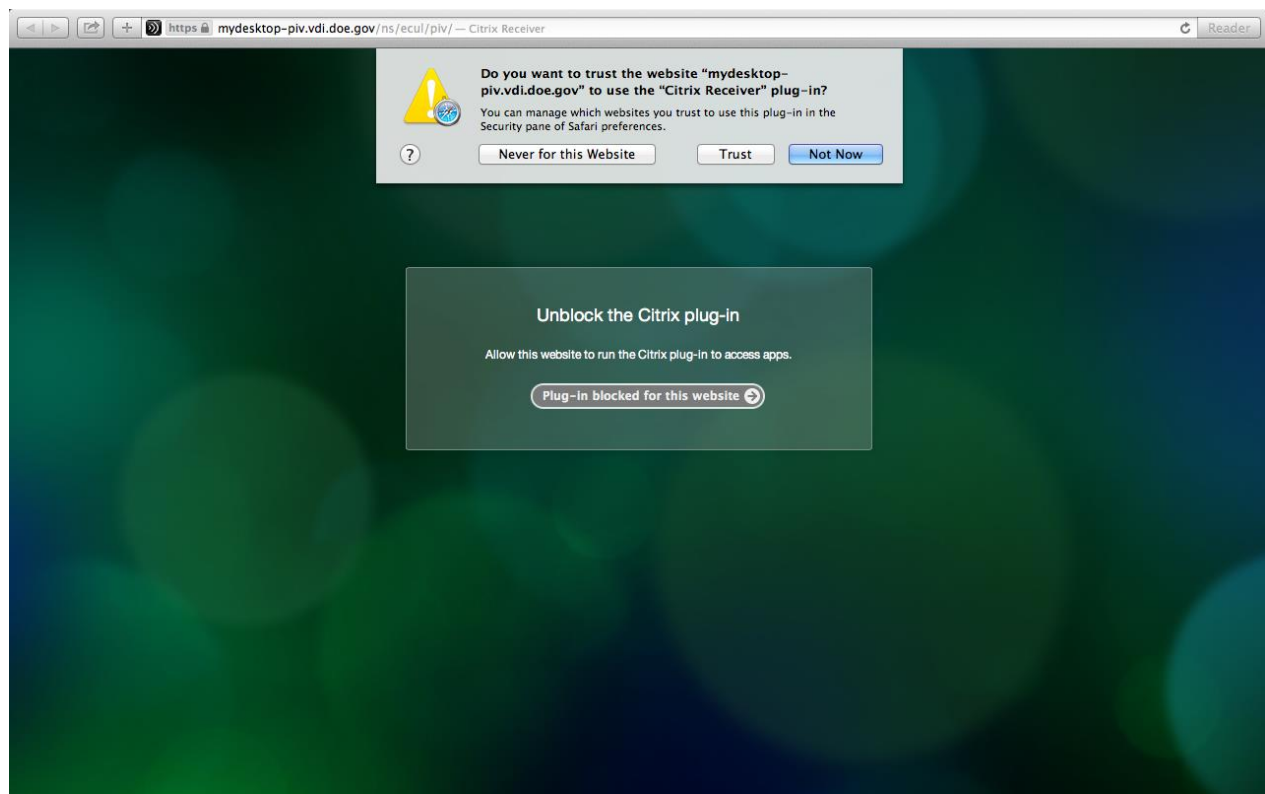
10. The Storefront displays.
    a. If you have a single desktop, it auto-launches.
    b. If you have more than one desktop, select the preferred desktop to launch.

11. When the desktop displays, the DOE Security Banner screen appears. Select [OK] to continue.

12. The desktop displays the message: Reading smart card…

13. At the prompt, type your PIN and press [Enter].

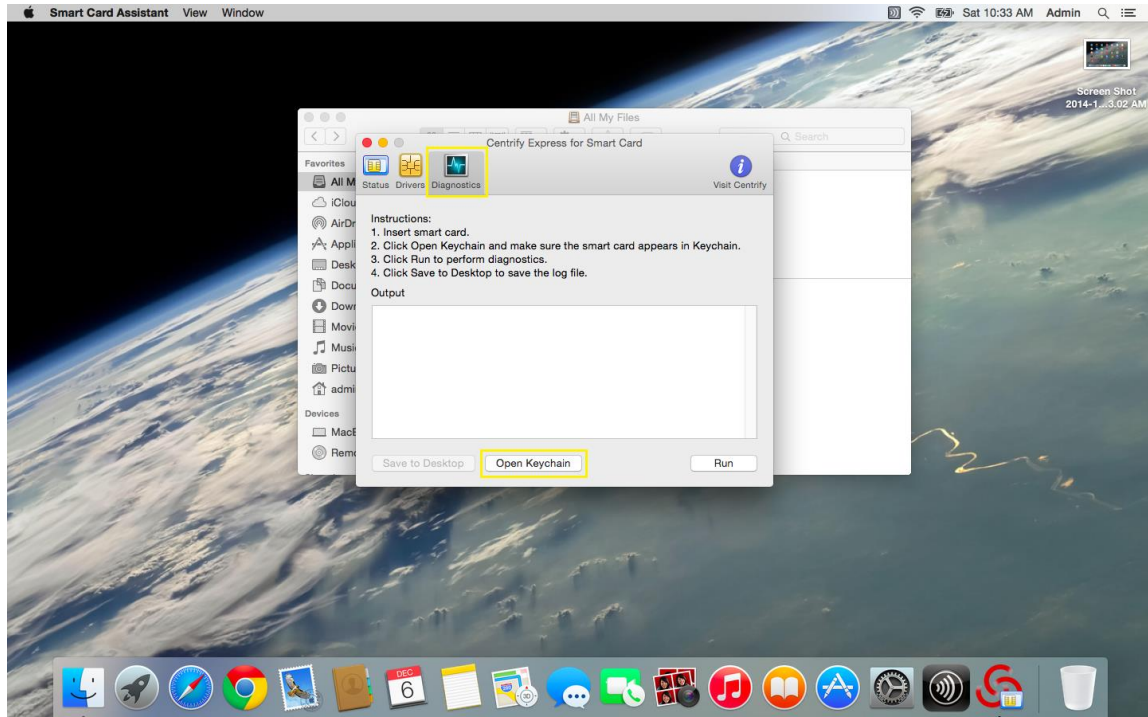14. You are now logged on to the desktop.

Appendix A: Remove an Incorrect Certificate

If you accidentally select the wrong certificate in Safari, you must remove it from the Centrify Express for Smartcard keychain to be prompted to select a certificate again.
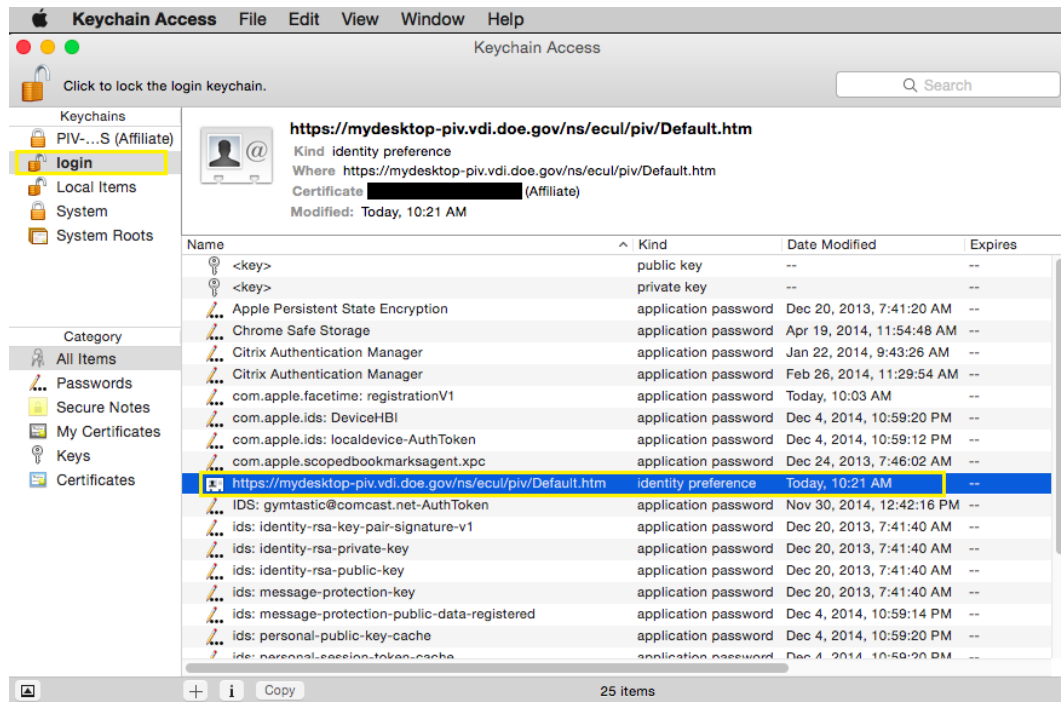
1. Open Launchpad and open Smart Card Assistant.

2. Select Diagnostics, then press the Open Keychain button.

3. On the left, select login under keychains and then All Items under Category.
4. On the right, select the identity preference entry and press [Delete].

5. Go back to section 6, Access from a Home Personal Mac. Go to step 6 to log on again and be prompted for the correct certificate.

Appendix B: Troubleshooting

If you select the wrong certificate after entering your PIN, an error message displays that states the page cannot be displayed. Follow these troubleshooting steps to select the correct certificate.
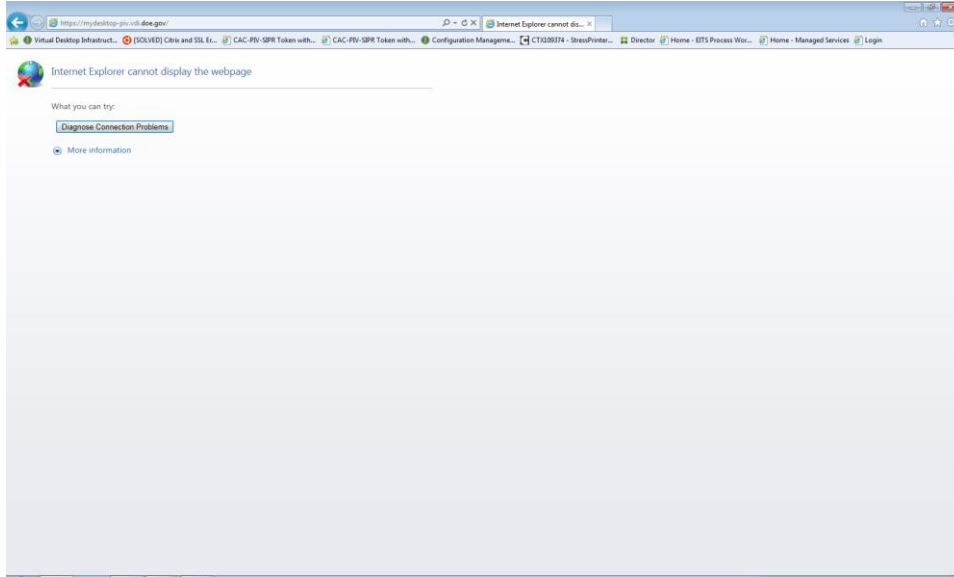
1. Close the browser.
2. Remove your PIV card from the reader, then re-insert it.
3. Open the browser again.
4. Go back to the logon instructions to select the correct certificate.

If the wrong certificate was chosen in Safari,first follow the steps in Appendix A, Remove an Incorrect Certificate, then complete these instructions.